



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Journal of Nuclear Materials

journal homepage: www.elsevier.com/locate/jnucmat



Preface

The 18th International Conference on Plasma Surface Interactions in Controlled Fusion Devices (PSI-18) was held in Toledo, Castilla-La Mancha, Spain from 26 to 30 May, 2008. It was organised by the Spanish National Fusion Laboratory (Association EURATOM-CIEMAT para Fusión) and counted with financial support from the Spanish National Fusion Laboratory and the Spanish Ministry for Science and Innovation.

The PSI conference represents a unique opportunity to share the latest advances in the area of plasma–surface interactions in controlled fusion devices with topics ranging from physics of edge plasmas to those of materials in interaction with plasmas. It is the objective and tradition of the PSI conference to foster the exchange of knowledge and new ideas among edge plasma and material physicists to advance the understanding of plasma-wall interactions in fusion devices, which has a deep influence on their plasma performance and the lifetime of their plasma facing components, among many other important issues.

The attendance of the conference was of 346 participants from 26 countries. Approximately 290 Posters were presented at the conference together with 36 Oral, 22 Invited and 4 Review reports. All papers appearing in these proceedings were refereed by at least two independent peer reviewers according to the standards of Journal of Nuclear Materials.

The conference dealt with a number of key research areas for the development of controlled fusion as an energy source for mankind and, in particular, for the first experimental reactor of this type, ITER, presently under construction in Cadarache (France): (a) material erosion, migration and transport, including dust issues; (b) physics of the divertor and scrape-off layer plasmas, (c) fuelling of plasmas, trapping of fuel and its recovery, (d) physics of transients events, such as ELMs and disruptions, and their effects on plasma facing components, (e) plasma facing materials/components, plasma heating, steady-state operation and conditioning methods and (f) development of novel plasma diagnostics for edge plasmas and plasma–wall interaction processes.

The conference venue was the historic city of Toledo known for the harmonic coexistence of the Christian, Jew and Muslim civilisations over the centuries, which lead to an unprecedented development of the arts and sciences in the European Middle ages. Toledo provided an excellent setting for the interchange of knowledge among the conference participants. We hope that this PSI conference is remembered by this “Spirit of Toledo” and that it constituted a unique occasion for the advancement of knowledge in the field of plasma-wall interactions in controlled fusion devices.

The success of the PSI-18 was due to the efforts and support of many persons. These include the CIEMAT local organising committee chaired by Dr. F.L. Tabarés and the staff of the SIASA Company. We are thankful to all of them and to all the conference participants for their contributions to the success of the conference.

On behalf of the PSI program committee we invite you to the next Conference, which will be jointly organised by General Atomics, the University of California, San Diego and Lawrence Livermore National Laboratory and will be held in San Diego and chaired by Dr. Anthony Leonard.

Guest Editors

Alberto Loarte

Francisco L. Tabarés

Isabel García Cortés

David Tafalla

Carmen García-Rosales

Philippe Ghendrih

E-mail address: Alberto.Loarte@iter.org (A. Loarte)